REMARKS

The Applicant submits this Preliminary Amendment in connection with a Request for Continued Examination, a Request for a 1-month Extension of Time, and in response to the Final Office Action mailed on June 12, 2006. All rejections and objections are respectfully traversed.

Claims 1, 5-6, 8-11, 13, 15-27, 40-41, 43-44, and 47-54 are now pending.

Claims 47-54 have been added.

Claims 1, 5, 10, 11, 16-18, 20, 27, 40-41, and 43-44 have been amended.

Request for Interview

The Applicant respectfully requests a telephonic interview to advance the prosecution of this case. The Applicant believes an interview will be most productive after the Examiner has had an opportunity to review this Amendment, but prior to the issue of the next Office Action. As the Applicant can not determine when the Examiner will have time to consider this Amendment, given PTO workload, the Applicant respectfully requests the Examiner contact the Applicant at 617-951-2500 when he reviews this Amendment so that a mutually convenient time for interview may be arranged.

Claim Rejections - 35 U.S.C. §103

At pages 2-6 of the Office Action, claims 1, 2, 10, 11, 16-18, 40-46 were rejected under 35 U.S.C. §103(a) as obvious in view of Awadallah, U.S. Patent No. 6,449,251 (hereinafter Awadallah) in view of the paper "VoIP Call Admission Control Using RSVP" in further view of Kano et al., U.S. Patent No 6,453,349 (hereinafter Kano).

The Applicant's claim 1, representative in part of the other rejected claims, sets forth:

> 1. A network device for use in a computer network carrying network traffic, the network device comprising:
>   a traffic scheduler having one or more resources for use in forwarding network traffic received at the device at different rates;
>   a classification engine configured to identify received network traffic based upon predefined criteria; and
>   a resource reservation engine in communicating relationship with the traffic scheduler and the classification engine,
>   wherein, *in response to a first request to reserve resources for a given traffic flow from a destination entity, the resource reservation engine allocates one or more resources to the given traffic flow, but does not make the one or more allocated resources available to the given traffic flow until receiving a second request to reserve the one or more resources from the destination entity indicating that the destination entity accepts the traffic flow.*

Awadallah discloses a packet mapper that maps streams of data packets to different queues within a network device, based upon information in the headers of the packets. *See* col. 1, lines 50-54, and col. 4, lines 30-40. The queues include priority queues for high priority traffic. *See* col. 4, lines 27-30. Fields of the header examined for packet classification include the source IP address field, destination IP address field, Type of Service (TOS) field and other fields. *See* col. 4, lines 30-33.

"VoIP Call Admission Control" describes a call admission control scheme where bandwidth is reserved before a destination device (i.e. a VoIP telephone) rings. "VoIP Call Admission Control" states at page 1, lines 17 to 21:

> The VoIP Call Admission control using RSVP feature synchronizes RSVP signaling H.323 version 2 signaling to ensure that the bandwidth reservation is established in both direction before a call moves to the alerting phase (ringing). This ensures that the called party phone rings only after the resources for the call have been reserved.

Kano discloses several schemes for acknowledging connection requests. In the Background of Kano, a first scheme is discussed in reference to Fig. 24. A "Transmitting Terminal" sends a "connect message" to a "Receiving Terminal." *See* Fig. 24 and col. 1, lines, 46-60. Each intermediate "Relaying Node" generates an ACK message notifying the immediately prior node that that the "connection request" was received. *See* Fig. 24 and col. 1, line 66 to col. 2, line 4. When the connection request arrives at the "Receiving Terminal," the terminal "determines whether or not to accept the reservation request... [and] if the reservation request should be accepted.... an acceptance (ACCEPT) message is transmitted..." *See* col. 2, lines 25-33. The ACCEPT message propagates back through the "Relaying Nodes," which generate ACKs to the immediately prior nodes along the way. *See* col. 2, lines 34-40 and Fig. 24. When the ACCEPT message is final received by the "Transmitting Terminal," the "Transmitting Terminal" begins using the connection and transmits packets thereon. *See* col. 2, lines 45-50 and Fig. 24.

Later Kano discloses another slightly different acknowledgment scheme. *See* Fig 12. In this configuration, the "Receiving Terminal" sends the request for connection and the "Transmitting Terminal" accepts and initiates a chain of ACK messages that propagate back to the Receiving Terminal. *See* col. 10, lines 1-54 and Fig. 12. Then, after some "fixed period of time has elapsed," packets are sent over the connection to the "Receiving Terminal." *See* col. 10, lines 55-60 and Fig. 12.

The Applicant respectfully urges that the combination of references does not show the Applicant's claimed ***"in response to a first request to reserve resources for a given traffic flow from a destination entity, the resource reservation engine allocates one or more resources to the given traffic flow, but does not make the one or more allocated resources available to the given traffic flow until receiving a second request to reserve the one or more resources from the destination entity indicating that the destination entity accepts the traffic flow."***

First, while the Applicant claims a two-step technique for reserving resources, where *a destination entity* sends a *first request to reserve resources* and a *second request to reserve the one or more resources*, none of the cited reference use multiple resource requests in a multi-step processes to reserve a particular set of resources. Specifically, Awadallah does not even discuss resource requests, instead suggesting one should analyzes packet headers to determine which resources to reserve. "VoIP Call Admission Control" simply mentions that bandwidth is reserved in two directions prior to a call ringing at a destination, but lacks any detail of how this is accomplished. Finally, Kano discusses a destination sending a single request to reserve a set of resources. Referring to Fig. 12 of Kano, only a single request message is sent by the "Receiving Terminal" to the "Transmitting Terminal." The "Transmitting Terminal" then sends an ACK back to the "Receiving Terminal." There is no suggestion that the "Receiving Terminal" must send a second request to reserve the resources after this. Transmission of packets on the connection simply begins.[1]

Accordingly, all three references lack any suggestion of using two requests from a destination entity to reserve a particular set of resources.

Second, the references do not show the details of the Applicant's two-step technique. While the Applicant claims in response to the first request to reserve resources *the resource reservation engine* _allocates_ *one or more resources to the given traffic flow,* *but does not make the one or more allocated resources available to the given traffic* *flow,* all three references are again silent. Adwadallah simply reserves resources in response to detecting packet headers, and but is silent concerning allocated but not available resources. "VoIP Call Admission Control" reserves resources before a telephone rings, but similarly is silent concerning allocated but not available resources. Indeed, at page 2-3 of the Office Action, the Examiner apparently agrees that Awadallah and "VoIP

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[1] The Applicant notes the Examiner cites also to Fig 24 of Kano. Yet in Fig. 24 the direction of resource requests is reversed, as the "Transmitting Terminal," not the "Receiving Terminal" sends a request to reserve resources. Thus, in that embodiment a destination does not send even a single request to reserve resources.

Call Admission Control" do not show this aspect of the Applicant's claims and instead turns to Kano. Yet, Kano is also silent regarding this feature. Kano discusses requesting resources, and waiting for an ACCEPT message before using the connection. However, there is no suggestion that the requested resources allocated prior to the ACCEPT message. Thus Kano lacks any suggestion of allocated but not available resources.

By way of background, the Applicant provides examples in the specification of allocating resources, at page 12, lines 7-18 describing:

> Significantly, although network resources have been allocated at each of these intermediate devices, those resources are not yet made available to the voice traffic from voice agent 104, as indicated by block 418. Should voice agent 104 begin sending voice traffic to voice agent 102, the intermediate network devices will not utilize the allocated resources for this traffic because the reservation is still in the resources allocated state 602.... Nonetheless, *because the resources have been allocated to the anticipated traffic flow from voice agent 104, they are not considered to be available in response to other reservation requests that may be received by the intermediate devices. Thus, subsequent reservation requests may fail admission control.*

Thus, in light of the above, the Applicant respectfully urges that claimed *the resource reservation engine <u>allocates</u> one or more resources to the given traffic flow, <u>but does not make the one or more allocated resources available to the given traffic flow</u>* is not suggested by Kano's requests or by any other of the cited references.

At page 7-8 of the Office Action, claims 5, 6, 8, 9, 13, and 15 were rejected under 35 U.S.C. §103(a) as obvious in view of Awadallah, and "VoIP Call Admission Control Using RSVP" and Kano in further view of Chiu, U.S. Patent No 6,744,767 (hereinafter Chiu).

Claims 5, 6, 8, 9, 13, and 15 are dependent claims that depend from independent claims believed to be allowable. Accordingly, these claims are also believe to be allowable.

At page 9-10 of the Office Action, claims 19-27 were rejected under 35 U.S.C. §103(a) as obvious in view of Awadallah, and "VoIP Call Admission Control Using RSVP" in further view of the paper "RSVP" by Jappila (hereinafter Jappila).
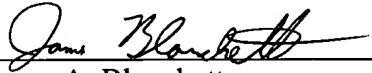
Jappila simply describes the conventional RSVP protocol and lacks any suggestion of using first and second resource reservation message to reserve resources, nor of allocating but not making available resources in response to a first resource reservation message. Accordingly, Jappila does not remedy the shortcomings of Awadallah, and "VoIP Call Admission Control Using RSVP" that are discussed above, and these claims are also believed to be allowable.

In the event that the Examiner deems personal contact desirable in disposition of this case, the Examiner is encouraged to call the undersigned attorney at (617) 951-2500.

In summary, all the independent claims are believed to be in condition for allowance and therefore all dependent claims that depend there from are believed to be in condition for allowance. The Applicant respectfully solicits favorable action.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

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